

REMARKS

The Office Action mailed October 24, 2006 has been carefully reviewed and the following remarks are made in response thereto. Claims 1-39 are pending in the application and were last examined. Claims 23-25 and 34 are withdrawn from consideration. Claims 1-22, 26-33 and 35-39 were last examined. In the Office Action, claims 1-22, 26-33 and 35-39 were rejected and claims 2, 4-7, 12, 26-33 and 37 were objected to.

Claims 1, 2, 9-12, 16, 18, 19, 21, 26, 28, 30, and 32 are amended herein and claims 8, 20, 33, and 35-39 are canceled. Support for the amendments may be found, for example, in the original claims. No new matter is added.

In view of the foregoing amendments and the following remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Oath/Declaration

In paragraph 3, the Examiner asserts that the oath or declaration is defective because a non-dated modification has been made to the zip code for inventor Jing Huang. The Examiner refers to 37 CFR 1.52(c) in support of this assertion. Applicants respectfully disagree and believe that the declaration is not defective. The correction to the zip code is initialed by Jing Huang and the document is signed and dated on that page by Jing Huang. Applicants believe that this meets the requirement of 37 CFR 1.52(c) that alterations to the application papers "should be dated and initialed or signed by the applicant on the same sheet of paper."

In addition, the mailing address and residence of inventor Jing Huang, including the correct zip code, have been provided in an application data sheet, filed November 12, 2003, in accordance with 37 CFR §1.76. As indicated in 37 CFR 1.63(c) if the mailing address and residence of the inventor are provided in an application data sheet they need not be included in the oath or declaration.

Objections to the Specification

In paragraph 4, the Examiner objects to the abstract as not being drawn to the elected invention. Applicants have amended the abstract in accordance with the Examiner's suggestions.

Also in paragraph 4, the Examiner has pointed out errors in the use of trademarks in the application. Applicant has amended the specification to capitalized trademarks when they appear and to add generic terminology.

Rejection of Claims Under 35 U.S.C. § 112

In paragraph 5, claims 1-22, 26-33 and 35-39 are rejected as allegedly being indefinite. Claim 1 is rejected because of the phrase "from the value obtained in (e)" in line 21. Claim 1 has been amended to clarify that it is the value of the measurement, S, obtained in (e) that the mean value obtained in (g) is subtracted from in (h).

Claim 2 is rejected because it recites the limitation "the autosomal SNPs" which lacks antecedent basis. Applicants have amended claim 1 to clarify that the plurality of SNPs comprises autosomal SNPs.

Claims 3 and 4 are rejected because the limitation "the estimated copy number alteration" and the limitation "the estimated direction of copy number change" lack sufficient antecedent basis. Claim 1 has been amended to add that in step (i) in addition to estimating the copy number of the region an estimate is also made of the copy number alteration and the direction of copy number change. Claims 9 and 11 have been amended to agree with the amendments made to claim 1.

Claim 10 is rejected because of the use of the term "equal to about". The term has been amended to "about".

Claims 11, 18, 19, 28, 32, 33 and 37 are rejected because they include an equation and the variables used in the equations are not defined. Applicants traverse this rejection with respect to claim 11 and assert that the terms of the equation are defined in claims 8 and 10 from

which claim 11 depends. Applicants have amended claims 18, 19, 28, 32, and 33 to define the variables used in the equations. Claim 37 has been canceled herein.

Claim 19 is rejected because the limitation “the direction of change for the SNP” lacks antecedent basis. Applicants have amended claim 19 to clarify that a direction of copy number change is determined from the estimated copy number of the SNP.

Claim 26 is rejected because the limitation “the SNPs in the identified region” lacks sufficient antecedent basis. Claim 26 has been amended to correct the antecedent basis.

Claims 30 and 35 are rejected because the phrase “the direction of change” lacks antecedent basis. Applicants have canceled claim 35 and amended claim 30 to clarify that a direction of change is determined by comparing the normal copy number to the estimated copy number and the p-value is calculated for the direction of change.

Claims 35-39 are rejected as allegedly being drawn to multiple statutory classes including an apparatus and a process. Applicants have canceled claims 35-39 making this rejection moot.

Rejection of Claims Under 35 U.S.C. § 103

In paragraph 6, claims 1-7, 12-15, 17, 19-20 and 30-31 are rejected as allegedly being unpatentable over Lindblad-Toh et al. in view of Zhou et al and further in view of Draghici (Drug Discovery Today, Vol. 7, Pages S55-63) and Kaminski et al. (American Journal of Respiratory Cell and Molecular Biology, Vol. 27, Pages 125-132, 2002).

Lindblad-Toh is cited as teaching a method of estimating copy number in a genomic region using a genotyping microarray. Zhou et al. is cited as teaching calculating an average difference between MM and MM intensities on an array and the comparison of a reference sample with an experimental sample by calculating a ratio between the average differences. Zhou et al. is also cited as teaching the use of PM only probe intensities to estimate fold change in expression assays. Draghici is cited as teaching carrying out a log transformation of data.

Kaminski et al. is cited as teaching the use of multiple samples and calculating a representative value for the samples as the mean of the multiple samples.

Applicants have amended claim 1 to incorporate the limitations of claim 8 and have canceled claim 8. Applicants believe that this amendment obviates the rejection of claim 1 from which claims 2-7, 12-15, and 17 depend.

With respect to claim 19 from which claim 20 depends, the claim has been amended to add the equation for estimation of copy number from claim 21. Claim 20 has been canceled and claim 21 has been amended to be consistent with claim 19.

With respect to claim 30 from which claim 31 depends, the claim has been amended to add the equation for estimation of copy number from claim 33. Claim 33 has been canceled.

Claim Objections

In paragraph 7, the Examiner has objected to claims 2, 12, 26-29, 30-33, 32 and 37 because of informalities in the claims. The claims have been amended to correct the informalities identified by the Examiner. Claim 2 has been amended to replace “wherin” with “wherein”. Claim 12 has been amended to replace “methof” with “method”. Claim 26 from which claims 27-29 depend has been amended to incorporate all of the limitations of claim 24 which has been withdrawn. Claim 30, from which claims 31-33 depend has been amended to replace “a computer readable media” with “computer readable media”. Claim 32 has been amended to replace “p valued” with “said p-value”. Claim 37 has been canceled making this rejection moot.

CONCLUSION

Having addressed all outstanding issues, Applicants respectfully request reconsideration and allowance of the case. If the Examiner feels that a telephone conference would in any way

expedite the prosecution of the application, please do not hesitate to call the undersigned at (408) 731-5768.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No.01-0431. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

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